CITY OF
FLORENCE
KENTUCKY®

PUBLIC SERVICES

- Infrastructure Forecast
- 2016 - 2021

Better Services - Better Community

Director's Message

To Mayor Whalen, Members of City Council and Citizens of Florence:

I am pleased to present the City of Florence's 2016-2021 Infrastructure Forecast. This document serves as a five-year planning tool for infrastructure development, improvements and maintenance.

The Department continues to emphasize the importance of addressing the city's infrastructure needs while also investing in projects and improvements that will enhance the quality of life in our City. A project that is included in the city's capital budget is broadly defined as requiring the expenditure of public funds, for the purchase, construction, enhancement, or replacement of physical infrastructure/assets.

To be included in the Infrastructure Forecast, the project should cost more than $5,000 and have an expected useful life greater than the life-span of any debt used to fund the project. Projects include construction and renovations of buildings; economic development activities; improvements to roadways, bikeways, and sidewalks; and the efficient operation of the water, sewage and storm sewer utilities. Other costs associated with the capital budget include, but are not limited to; fleet, grounds maintenance and site asset replacement.

The department uses a long range planning process to develop a five-year Infrastructure Forecast. Each capital project included in the five-year program has been recommended for funding in the first fiscal year of the plan and/or included as a planned project in the subsequent four fiscal years. Because of the multi-year nature of the forecast, it is a "living" document that outlines a project's past and future. For example, as a project is developed, the amount and timing of expenditures may allow budget appropriations to be moved out in the forecast or require that the appropriations be accelerated and the budget size increased or decreased. Therefore, each year, detailed analysis is conducted to ensure that the appropriate levels of spending and types of spending by project are understood and captured in the forecast.

I hope that the Infrastructure Forecast provides you with valuable information. Please do not hesitate to contact me with any questions or needs for additional information.

Respectfully Submitted,

Eric Hall
Public Services Director

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEARS 2016-2021

INTRODUCTION

The City of Florence Public Services Department is responsible for all maintenance, repairs, rehabilitation and inspection of streets owned by the City. The department is responsible for maintaining in excess of **168** lane miles on more than **373** City owned and maintained streets. In addition, the City performs limited maintenance on the State roads that are located within the City limits. These roadways account for over an additional **76** lane miles.

Many streets within the City were constructed during the building booms of the 1950s, 1960s, 1970s, 1990s and the first five years of the 21st Century. The majority of those streets that were installed prior to the 1990s were typically constructed of reinforced concrete that was poured six inches thick. This concrete was reinforced with welded wire fabric and was designed for a service life of approximately 20 to 30 years. Nearly all of the City's streets were built with a curb and gutter cross section. Many of these streets were built before subdivision regulation standards were in place and while construction practices varied between developers. Street construction standards were finally put in place in the late 1980s. These standards were then published in the Boone County Subdivision Regulations. Beginning in the 1990's streets began to be constructed with curb and gutter along with full depth asphalt. These streets were designed with a service life of approximately 30 years.

Many streets in the City are now nearing the end of their service lives. Pavement deterioration begins from the moment they are built. Factors that contribute to this deterioration include increased traffic, increased weight loads, water infiltration, freeze/thaw cycles, and ultraviolet radiation from the sun. These factors become even more destructive as the pavement nears the end of its design life. The abundance of streets requiring repairs dictates the need for a comprehensive repair strategy and pavement management system.

This document presents a brief outline of the department's pavement management strategies. The strategies contained in this document will illustrate how the City strives to maintain the public streets in a good condition without the need to use expensive reconstruction techniques.

Ideally, cost effective street repairs will occur before a pavement reaches a dilapidated condition. The department has a policy in place that guides us in using preventative maintenance techniques in order to help prolong the life of City roadways. Over the life cycle of a street, a street will receive a variety of rehabilitation processes. Two processes that are commonly used, when the life of a street is nearing its end, are concrete replacement and asphalt overlays. These processes are initiated only after an extensive amount of research has been done, while taking caution as to not overlook how the processes will impact the City's street network as a whole.

This document is updated annually in order to include any advances in this field that the City has or will implement as well as any changes that need to be implemented due to various factors. The information we use in order to come up with the best strategies, in regards to street repairs, is acquired from many resources.

One resource we use continuously is the evaluation of our streets through our street inspection program. This program consists of the City's street network being divided into three zones. These zones are then individually inspected once every three years. This inspection process is used to identify a multitude of street deficiencies which are then given a rating as to their severity. Once the inspection process is completed, these ratings are input into our Lucity System. This system then processes the new ratings as well as depreciating previous year's ratings. This information is then used by Lucity to generate an overall PCI (Pavement Condition Index) Report. The

PCI Report allows us to compare streets in a rating system format. Once the poorly rated streets are identified, numerous other thought processes come into play in order to identify the streets that will become part of our Infrastructure Forecast. This process is done while always maintaining the highest level of fiscal responsibility.

Another thought process that is used in identifying streets for our repair forecast is the adjustment of the repair schedule in order to allow the coordination between the repairs of other utilities such as water & sewer.

After all of our processes have been completed, we will then figure the cost of repairing the streets we have identified. These cost figures are based off a preliminary budget estimate. These estimates will be updated based on a more thorough examination of the needed repairs prior to the start of any work.

ROAD SURFACE MANAGEMENT STRATEGIES

The City of Florence Public Services Department utilizes four distinct road surface management strategies in its daily routine. These strategies can be organized as follows:

- Routine Maintenance
- Preventive Maintenance
- Rehabilitation
- Reconstruction

A fifth category, Deferred Action, could also be added to the above list. A Street in the Deferred Action list would be a street with a known deficiency but without funding or resources to complete the corrective action necessary in the particular year that it is scheduled to be repaired.

ROUTINE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **routine maintenance** activities:

Street Inspections

The department performs yearly inspections on one third of all City owned streets and this information is entered into the department's infrastructure management software system (Lucity). This information then provides the department with each street's Pavement Condition Index (PCI), which is then used, in addition to other processes, to determine the repair strategy and scheduling priority of any streets in need of rehabilitation.

Street Creep Inspections / Joint Installation

Street creep or street growth refers to concrete streets slowly lengthening with time. The lengthening occurs as a result of repeated cycles of concrete contraction during cold weather and then concrete expansion during hot weather. During periods of cold weather there is contraction of the concrete pavement, during which joints in the concrete open. Grit and debris from the street surface can then enter into the street joints. When debris enters the street joints and the concrete expands during hot weather, the grit-filled joints cannot close to absorb the expansion. When this happens, the compression at the joints causes the street to lengthen. As the street continues to slowly "grow" with repeated cycles of contraction and expansion, it pushes on and can damage catch basins, manholes, sidewalks, driveways, foundations and other streets that about it.

To battle this issue the department has installed Street Creep Joints on concrete streets that have been identified as potential problem areas as well as constituting an elaborate crack sealing program. Once these joints are installed; the department will then perform yearly Street Creep Joint Inspections. This information is then given to our Geotechnical Engineer, Thelen, who gives us recommendations on any necessary repairs. Thelen is also utilized during the engineering phase of our street projects; in order to identify and address any existing or possible future street creep issues.

Street Modeling

This process consists of having Lucity take values that are assigned to any deficiencies found through the inspection process and extrapolate that data throughout an assigned time period. In setting up the model, there are many sets of data that are necessary for the model to compile a "forecast". Included in this data are repair strategies, pavement types, road classifications, costs related to each repair strategy and forecasted budgets. The model then compiles all of this data to give us a forecast of how each street will age, when repairs will be needed, the cost of that repair, how that repair fits into our projected budgets and what type of repair will be necessary.

Street Sweeping

The department's goal is to sweep all streets within the City eight times per year. There are many reasons the department considers this an essential work activity. Street Sweeping removes dirt and debris which can cause potential safety hazards to motorists and pedestrians. Not to mention, debris could also clog storm sewer systems if left on the street. This debris could contain environmental contaminants, which if left to drain into the storm system could pollute local groundwater and stream systems. In addition, gravel and debris left on the pavement can, over time, escalate surface wear. These factors and many others make Street Sweeping a good practice to follow.

Pothole Patching

Periodically, the department receives reports of potholes on City streets from various sources. These reports are monitored and compiled into a list of requested repairs. Once reported, severe potholes are repaired as soon as possible, typically within seventy-two hours. All other reports of potholes are kept on record until such time that crews and materials can be scheduled effectively and efficiently. Frequency and quantity of potholes on a street is also a good indicator of other potentially needed repairs.

PREVENTIVE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as the department's **preventive maintenance** activities:

Crack Sealing

Crack Sealing joints and cracks on the surface of City maintained streets is perhaps one of the most critical preventive maintenance activities that the department performs. Crack Sealing is a complex process that involves the cleaning and routing of cracks in the pavement surface in order to fill them with a petroleum-based sealant. This sealant prevents water from infiltrating under the street which thereby prevents subsurface erosion and the continued deterioration of the crack. This process also prevents debris from filling joints which could ultimately cause more cracking or possible Street Creep issues.

The departmental policy is to crack seal all City streets on a seven year schedule. The City is divided into seven sections with each section containing approximately 22 lane miles of street. Each section is sealed once every seven years. A crew can only seal during certain weather conditions. These conditions require that the pavement is dry and that the temperature is above and below certain degrees in order to achieve the maximum performance of the sealant material. It also should be noted that the Boone County Subdivision Regulations requires developers of new streets to seal those streets as a final phase of the construction process.

Mill and Patch

Frequently, budgetary constraints do not allow all needed repairs to be completed at the appropriate times. When these instances occur, the department utilizes the repair technique known as "mill and patch." This process starts with the identifying of deteriorated joints, cracks, or gutter lines in the pavement surface. Once these have been identified the department's crews will mill these areas out and then fill the voids with asphalt pavement. This process can restore the rideability of the street while allowing a delay of a resurfacing project for up to two to three years.

Mudjacking
The thought process in implementing this activity is that the street's surface is only as good as the base upon which it sits. Mudjacking is most effective and only performed by the department when utilized under rigid concrete pavements. This preventive maintenance practice fills voids which are caused by subsurface erosion under the pavement surface with a slurry of cement, fly ash and water. This mixture then cures like a stiff soil and creates a stable base under the pavement.

Departmental policy dictates that all City streets scheduled to receive an asphalt overlay or scheduled for complete concrete replacement be evaluated for undersealing the year prior to the commencement of the project. In an effort to cut back on any wasteful application of this process, the department now has an outside agency come in and with the use of ground penetrating radar identify the precise location of voids under the street. This extra step has saved an enormous amount of time and has dramatically reduced the amount of materials needed to complete this annual program.

If mudjacking is necessary, the street is added to the mudjacking list located in the Infrastructure Forecast. In addition to concrete streets, any composite street with a known void beneath the pavement is also a candidate for mudjacking. While performing the mudjacking process any problems that are associated with subsurface drainage or drain outlets are evaluated and addressed.

REHABILITATION

The following activities conducted by the Public Services Department are categorized as the department's **rehabilitation** activities:

Concrete Replacement
Normally concrete streets have a longer service life than asphalt streets. With that being said, long-term costs are reduced when a street can retain a concrete surface. Streets are evaluated as part of the inspection process and during the compilation of the Infrastructure Forecast in an effort to determine any replacement needs. Ideally, the department's goal is to keep concrete streets concrete. Because of this philosophy, the City crews have become skilled in concrete replacement techniques.

Typically, streets that have less than forty percent of their area that need replacement are rehabbed by City crews. It is generally not cost effective for the department to replace more than 40% of a concrete street with concrete. Occasionally, however, exceptions to the 40% rule occur; particularly when sub-base failures are prevalent on the street. These types of failures require complete removal of the failed pavement in order to correct the sub-base problem. These cases are considered a reconstruction technique rather than a rehabilitation technique.

When concrete replacement is needed; any failed joints, cracks, and gutters are identified and marked by a representative from the Engineering and Inspection Division (EIS). Any other problems such as subsurface drainage needs are evaluated and addressed at this time as well. The marked sections are then cut out and removed. This then allows the subgrade to be prepared and stabilized prior to replacing the concrete.

Mill and Overlay
Concrete streets with more than a 40***%*** replacement need or deteriorated streets that were previously overlaid; are typically milled and overlaid with a new asphalt surface. This type of work is not performed by City crews but is put out to bid in order to be performed by an outside contractor.

The City's Engineer will evaluate these streets and prepare plans and recommendations for the rehabilitation project. In many instances the engineer will recommend advanced paving technologies such as paving fabrics and reflective crack retardants which are used to extend the life of the overlaid surface.

As the project advances there are many conditions other than the street surface that are evaluated. These conditions will frequently include deteriorated catch basins, badly worn curbing and subsurface issues. When a

problematic catch basin is identified it will typically be replaced and any subsurface drains will be tied into it. In instances where badly worn curbing is identified the department will decide on whether or not to replace the curbing with a box type curb or a standard roll curb. The evaluation of any subsurface conditions will typically take place after the milling process has been completed. In most instances if extensive repairs are required; the department will make a fiscally responsible decision based upon the City Engineer's recommendation of how to proceed.

RECONSTRUCTION

Reconstruction techniques are utilized when a street has deteriorated to the point that rehabilitation strategies do not adequately address the problems of that street. Reconstruction will also be used when a street can no longer accommodate the traffic that uses the street or in instances when the street was not originally constructed to City standards. Some streets, such as Glenn Rose, Locust Lane and Clark Street are gravel and may warrant an assessment in order to bring them up to current City standards. Each reconstruction project is unique and a variety of engineering techniques are used to improve the condition of the street. Each street requires a different approach and the City Engineer would be consulted to help determine the best approach to take.

SIDEWALKS AND BIKE PATHS

The department is dedicated to making the City as pedestrian friendly as possible. Whenever a street project is planned, the department considers the feasibility of sidewalks if none exist. If sidewalks are already a part of the landscape of that area, then the department will identify and correct any portions of the sidewalks that are in need of repair. Sometimes repairs will occur during a project and other times they are addressed by our Street Division.

The department also strives to achieve the connectivity of the many bike paths that are included inside the City limits. As a long standing practice the department has continued to implement and improve bike paths in City owned parks. With that being said, there are many bike paths throughout the City which run along streets and through parks. The vision of the department is that a pedestrian will have access from one side of the City to the other; whether it be by walking, skating or by bike. Together, the department maintains over 155 miles of sidewalks and bike paths.

FORECASTED PROJECTS

The following forecast represents a three-year plan using anticipated funding. The anticipated funding does not include the possibility of an assessment project. This forecast will provide for the repair and significant improvement of City streets. This forecast will be updated annually based on annual pavement inspections, computerized pavement management techniques, the pavement condition index (PCI) and the human decision making element.

The PCI is generated through the utilization of the Lucity Street Master software. This software is a GIS linked pavement management program that utilizes the information acquired through street inspections and other data. Once the street inspection data has been entered into the program, the program will then calculate a PCI that corresponds with every City street based upon the data entered. This software also allows us to generate a general forecast far into the future. This forecast is known as modeling. Modeling will allow us to generate a "long term" forecast, which will help us best manage the techniques mentioned in this document while providing us with a glimpse of what funds will be needed in order to keep the City's street system at a certain level.

The following forecast was developed based on public input, staff recommendations, geographical relationships to other deteriorated streets, the Pavement Condition Index (PCI), and estimated costs of necessary improvements.

UNFUNDED STREET PROJECTS

There are some street projects that did not make the budgeting cycle for the next three years or where an upgrade in the repair strategy could be justified. These streets and their repair strategies require an amount of funds that are not able to be taken from the budgets of the next three years while keeping the rest of our streets at a high level of quality. These projects are unfunded but in the event that funds are available, these streets will be rehabbed during the next three years. The unfunded projects can be found as part of each budget year's plan as "specially funded" projects.

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEAR – 2016/2017

PHASE I

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Commons Court	75.5	Mill and Overlay	
Dumaine Court	72.7	Mill and Overlay	
Ellingsworth Way	86.8	Mill and Overlay	
Old World Court	79.3	Mill and Overlay	
St. Charles Circle	70.2	Mill and Overlay	
St. Louis Boulevard	80.7	Mill and Overlay	
Tulane Court	78.5	Mill and Overlay	
Wellington Drive (Partial)	84.5	Mill and Overlay	
Wiltshire Way	68.5	Mill and Overlay	

Total

PHASE II

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Appomattox Drive	80.7	Mill and Overlay	
Aquilla Avenue	78.9	Mill and Overlay	
Ashley Court	85.8	Mill and Overlay	
Atlanta Court	83.5	Mill and Overlay	
Butler Court	83.6	Mill and Overlay	
Haines Drive	76.4	Mill and Overlay	
Scarlet Way (Partial)	87.5	Mill and Overlay	
Taramore Place	64.4	Mill and Overlay	

Total

PHASE III

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Foltz Drive	31.5	Mill and Overlay	
Hansel Avenue (Partial)	79.5	Mill and Overlay	
Honeysuckle Drive	50.5	Mill and Overlay	
Honeysuckle Terrace	61.4	Mill and Overlay	
Kathryn Avenue	9.1	Mill and Overlay, Sidewalk	

Total

PHASE IV

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
New Buffington Road	66.4	Mill and Overlay	
Street Striping/Parking Lot	NA	Pavement Marking Improvements	

Total

SPECIALLY FUNDED PROJECT

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Locust Avenue	64.9	Complete Replacement, Sidewalk	

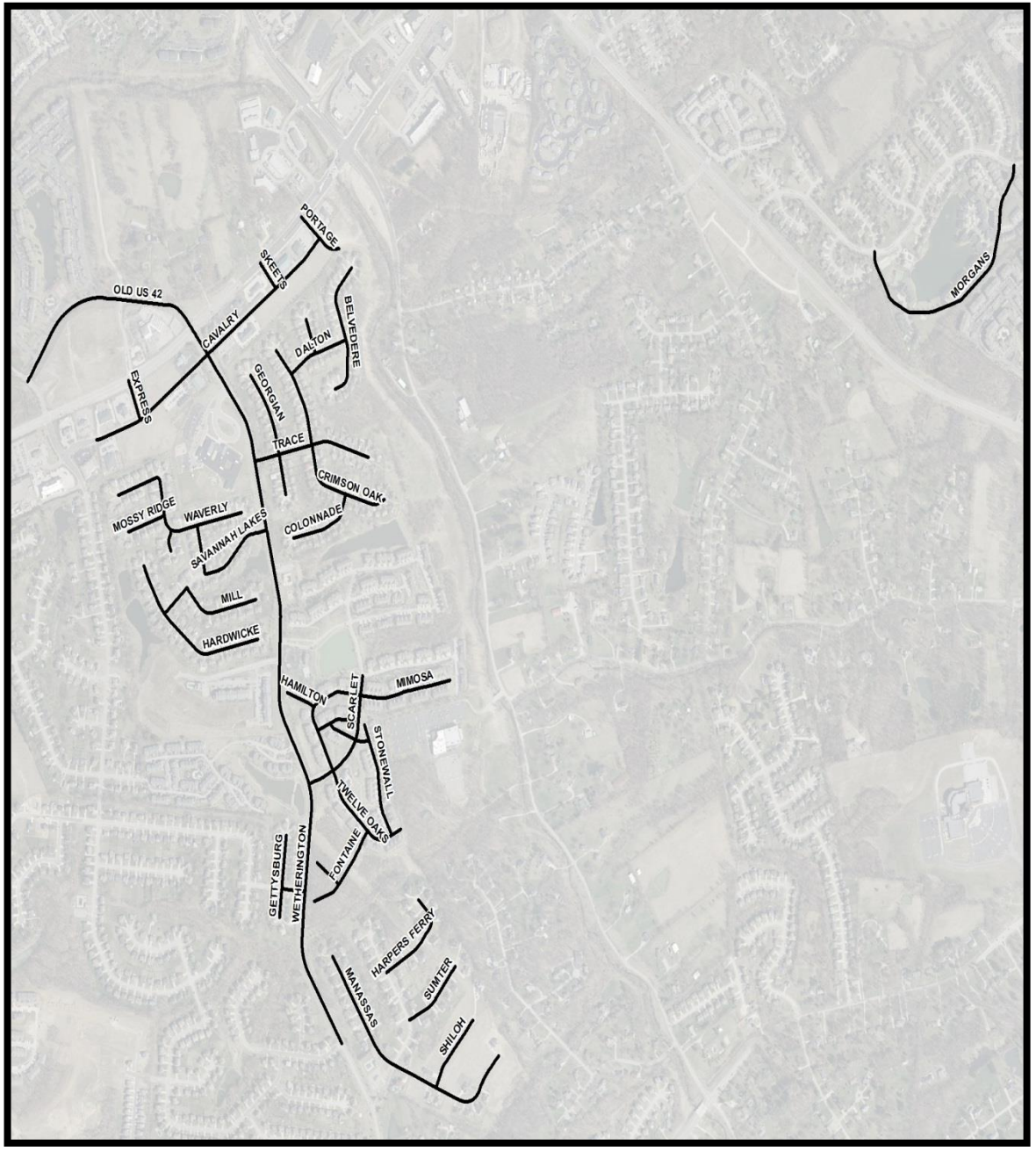
Total

(Overall Pavement Condition Index 71.13)

STREET DIVISION SCHEDULED (IN-HOUSE) REPAIRS

CRACKSEALING

STREET NAME	LENGTH (FT)	STREET NAME	LENGTH (FT)
Belvedere Court	1061.3	Sunnybrook Drive	1332.6
Brantley Way	381.6	Susie Drive	1230.8
Cavalry Drive	3555	Tabor Court	160.2
Colonnade Drive	671.6	Tattersall Lane	560.8
Crimson Oak Drive	1781.1	Trace Drive	1156.1
Dalton Drive	610.9	Twelve Oaks Drive	959.5
Express Street	323.2	Waverly Drive	1589.2
Fontaine Court	499.1	Wetherington Boulevard	6128.5
Georgian Court	996.4	Wisteria Court	278.2
Gettysburg Lane	629.8		
Hamilton Court	285.6		
Hardwicke Lane	1464.7		
Harpers Ferry Drive	811.3		
Jackson Court	803.5		
Manassas Drive	2307.5		
Mill Way	779.4		
Mimosa Trail	1930.5		
Morgans Trace	2351.8		
Mossy Ridge Court	375.4		
Old US 42	2005.2		
Planters Trail	431.1		
Portage Trail	457.8		
Savannah Lakes Drive	1243		
Shiloh Court	636.5		
Skeets Way	245.1		
Stonewall Trails	898.4		
Sumter Ridge	628.2	**TOTAL LINEAR FEET**	**41,560.9**



MUDJACKING

STREET NAME
Aquilla Avenue
Haines Drive
Honeysuckle Drive
Honeysuckle Terrace
Kathryn Avenue

***Pavement replacement will take place on the streets scheduled for rehab in fiscal year 2016/2017**

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEAR – 2017/2018

PHASE I

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Center Park Drive	82.9	Mill and Overlay	
Center Street	78.4	Mill and Overlay	
Curtis Avenue	70.7	Complete Replacement, Sidewalk	
Foster Avenue	61.7	Mill and Overlay	
Highridge Avenue	76.4	Mill and Overlay, Sidewalk	
Spicewood Avenue	62.4	Mill and Overlay	

Total

PHASE II

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Ewing Boulevard	NA	Bike Path Overlay	
Freedom Way	79.4	Mill and Overlay	
Preakness Drive	50.0	Mill and Overlay	
Safeway Drive	70.4	Mill and Overlay	
Street Striping/Parking Lot	NA	Pavement Marking Improvements	

Total

SPECIALLY FUNDED PROJECTS

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Ewing Boulevard	82.8	Mill and Overlay	

Total

(Overall Pavement Condition Index 71.51)

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEAR – 2018/2019

PHASE I

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Algiers Street	92.9	Mill and Overlay	
Antoinette Way	76.4	Mill and Overlay	
Armstrong Street	80.8	Mill and Overlay	
Carnival Court	95.7	Mill and Overlay	
Chateau Court	80.1	Mill and Overlay	
Jackson Rue	85.7	Mill and Overlay	
Lafitte Court	76.8	Mill and Overlay	
Mardi Gras Way	83.5	Mill and Overlay	
Rampart Way	81.7	Mill and Overlay	

Total

PHASE II

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Homestead Drive	75.5	Mill and Overlay	
Lago Mar Court	78.5	Mill and Overlay	
Los Alos Court	95.8	Mill and Overlay	
Northfield Drive	84.3	Mill and Overlay	
Oceanage Drive	91.2	Mill and Overlay	
Rye Court	59.9	Mill and Overlay	
Southfork Drive	86.0	Mill and Overlay	
Sunrise Drive	86.1	Mill and Overlay	

Total

PHASE III

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Harvey Quast Drive	78.2	Mill and Overlay	
Spiral Drive	76.5	Mill and Overlay	
Woodland Avenue	69.1	Complete Replacement & Sidewalk	
Yealey Drive	82.4	Mill and Overlay	

Total

PHASE IV

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Fowler Creek	NA	Bike Path Overlay	
Street Striping/Parking Lot	NA	Pavement Marking Improvements	

Total

SPECIALLY FUNDED PROJECT

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Government Center Parking Lots		Mill and Overlay	

Total

(Overall Pavement Condition Index 80.86)

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEAR – 2019/2020

PHASE I

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Bourbon Street	84.5	Mill and Overlay	
Daphne Drive	85.9	Mill and Overlay	
Decatur Court	78.1	Mill and Overlay	
Nottoway Court	70.8	Mill and Overlay	
Orleans Boulevard	77.3	Mill and Overlay	

Total

PHASE II

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Brantley Way	90.0	Mill and Overlay	
Hardwicke Lane	84.8	Mill and Overlay	
Mill Way	74.5	Mill and Overlay	
Mossy Ridge Court	89.6	Mill and Overlay	
Savannah Lakes Drive	87.0	Mill and Overlay	
Tabor Court	87.2	Mill and Overlay	
Waverly Drive	89.5	Mill and Overlay	

Total

PHASE III

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Ann Street	72.4	Mill and Overlay	
Dell Court	88.9	Mill and Overlay	
Dell Street	84.3	Mill and Overlay	
Julia Avenue	76.0	Mill and Overlay	

Total

PHASE IV

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Drexel Avenue	79.8	Mill and Overlay	
Investment Way	86.2	Mill and Overlay	
Maranatha Court	41.4	Mill and Overlay	
Miriam Drive	86.0	Complete Replacement, Sidewalk	

Total

PHASE V

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Wetherington Boulevard	NA	Bike Path Overlay	
Meijer Drive/Spiral Drive	NA	Bike Path Overlay	
Saddlebrook Drive*	NA	Bike Path Overlay	
Woodspoint Drive	NA	Bike Path Overlay	
Street Striping/Parking Lot			

Total

SPECIALLY FUNDED PROJECT

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Merravay Drive	61.8	Complete Replacement	

Total

*evaluate dead end

(Overall Pavement Condition Index 80.71)

CITY OF FLORENCE PUBLIC SERVICES

TRANSPORTATION INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEAR – 2020/2021

PHASE I

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Glen Street	77.5	Complete Replacement	
Kentaboo Avenue (Phase I)	71.9	Complete Replacement & Sidewalk	
Roberta Avenue	81.5	Complete Replacement	
Russell Street	79.1	Complete Replacement & Sidewalk	

Total

PHASE II

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Belair Circle	64.4	Mill and Overlay	
Belair Drive	69.0	Mill and Overlay	

Total

PHASE III

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Brookside Park		Bike Path Overlay	
Florence Nature Park		Bike Path Overlay	
Kensington Park		Bike Path Overlay	
Orleans Boulevard		Bike Path Overlay	
Preakness Way		Bike Path Overlay	
Rampart Way		Bike Path Overlay	
South Fork Park		Bike Path Overlay	
St. Louis Boulevard		Bike Path Overlay	
Stringtown Park		Bike Path Overlay	

Total

PHASE III

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Street Striping/Parking Lot		Pavement Marking Improvements	

Total

SPECIALLY FUNDED PROJECT

PROJECT	PAVEMENT CONDITION INDEX	DESCRIPTION	BUDGETED AMOUNT
Circle Drive (Phase I)	69.9	Complete Replacement & Sidewalk	

Total

(Overall Pavement Condition Index 73.9)

CITY OF FLORENCE PUBLIC SERVICES

DRINKING WATER REPAIR POLICIES AND APPROACH

FISCAL YEARS 2016-2021

INTRODUCTION

The City of Florence Public Services Department takes a very proactive role in providing potable water, of the best possible quality, to its customers. In trying to achieve a high level of water quality, the department maintains approximately **8,871** water meters, **150** miles of water line, **3,898** water valves and **1,600** fire hydrants. The department uses many techniques in keeping the distribution system at a high level of performance. This document will highlight and provide a brief overview of some of the key techniques that are utilized.

The following paragraph is a brief overview of how the Water Division, of the Public Services Department, operates. The City obtains its water from the Boone Florence Water Commission through a 30 year agreement which was signed in 1999. This commission was formed in order to develop the means in which to provide the needed quantity and quality of water to the customers of the City of Florence, as well as Boone County. The commission purchases its water from Greater Cincinnati Water Works. The arrival of this water into our system is accomplished through a piping system that runs from the Greater Cincinnati Water Works' treatment facility, then under the Ohio River to a pumping station known as the Constance Pump Station. This station then pumps the water up and into the water distribution systems of the City of Florence and the Boone County Water District.

Duties of the Public Services Department's Water Division include but are not limited to the following:

Water shut-offs for delinquent water bills
Meter changes
Meter upgrades
Meter installation
Water main repairs
Hydrant inspections
Hydrant repairs
Vault inspections
Vault repairs
Annual water valve turning program
Annual cross-connection program
Water sampling for compliance with state and federal regulations
Monthly Operating Report to the Kentucky Division of Water for both the City of Florence and the Boone Florence Water Commission
Maintenance and reporting of all items required through the agreement with the Boone Florence Water Commission
Consumer Confidence Report
Identification of projects that will improve on the hydraulics and quality of the water that is distributed throughout our system while striving to keep disruptions in service at a minimum

In addition to the previously mentioned duties, the City of Florence Public Services Department works diligently to provide top quality water to every water service. The department performs over 500 water quality tests annually to assure that top quality water will reach each customer we have. The department will also meet or exceed all of

the state and federal guidelines for water quality testing. For additional information on our water quality, please see our Consumer Confidence Report which can be either picked up at our office or viewed on our website.

WATER DISTRIBUTION MANAGEMENT STRATEGIES

The City of Florence Public Services Department utilizes four distinct water distribution management strategies in its daily routine. These strategies can be organized as follows:

- Routine Maintenance
- Preventive Maintenance
- Rehabilitation
- Replacement

The remainder of this document will provide an overview of the strategies we utilize.

ROUTINE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **routine maintenance** activities:

Daily Chlorine Samples

The department monitors the free and total chlorine residuals throughout the City on a daily basis. There are a total of ten daily samples that are taken. These samples are taken from sites that have been approved through the Kentucky Division of Water as being representative of our system as a whole. These samples give the department an idea of the water quality throughout our system and will allow us to become more proactive in dealing with possible issues instead of being solely reactive.

Monthly Bacteria Samples

The department collects 42 samples per month and sends them to the Greater Cincinnati Water Works' lab for analysis. These samples are another tool used to keep our finger on the pulse of the water quality in our system. The results of these samples are sent to the Kentucky Division of Water in order for the department to stay in compliance with state and federal drinking water regulations.

Stage Two Disinfection By-Products Rule (IDSE Program)

This program began in October of 2007. As a result of our samples taken during our evaluation period, a reduced monitoring schedule has been approved by the Kentucky Division of Water. Compliance sampling started May of 2012.

Lead and Copper Sampling

Due to state regulations, the City is required to perform lead and copper testing once every three years. The way this three year cycle falls; means that the City will perform testing in 2017.

The sample sites, which are residential, have been submitted and approved by the Kentucky Division of Water. The residencies which have been chosen as sample sites will be sent letters asking for their participation in this program. The department will collect 30 samples from 30 participating residencies, to be tested for unhealthy lead and copper levels. The results of past lead and copper sampling are provided in our Consumer Confidence Report. The City has always been in compliance in regards to the lead and copper testing regulations.

The City of Florence does not have any lead water mains in their distribution system.

As with any sampling, any sample that tests positive for a monitored substance will require the department to provide notification as is stated in the Kentucky Division of Water Drinking Water Regulations.

PREVENTIVE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **preventive maintenance** activities:

Meter Testing Program

All water meters three inches or larger are tested annually. This testing of the large meters is done to ensure that customers who typically use a large amount of water are having their water usage monitored accurately. In addition to testing being tested for accuracy, all large meters are inventoried and inspected.

Due to the much lesser amount of water that travels through meters smaller than three inches and because the lesser flow of water rarely causes meter efficiency problems; meters less than three inches are tested in a continuous yearly effort. Meters that range in size from 5/8" to 1" are tested every ten years. Meters from 1.5" to 2" are tested every five years. All meters tested must meet the American Water Works Association Standards for accuracy.

Any meters that malfunction are repaired and retested or replaced promptly. A request can be made by the customer to have a meter tested.

Valve Inspection Program

The department has instituted and performs an annual Valve Inspection Program. This program breaks the City's valves into three groups: critical, secondary and common valves. The critical valves are inspected and exercised on an annual basis. The secondary valves are broken into four groups; each group is exercised and inspected once every four years. All valves that malfunction are repaired or replaced as needed. This is a critical operation of the department as it keeps the possibility of a wide scale disruption of service at a minimum by keeping the department's water valves in proper working order.

Hydrant Inspection Program

The department has instituted and performs an annual Fire Hydrant Inspection Program. This program breaks the City's fire hydrants into four zones, with each zone being inspected once every four years. All hydrants that malfunction are repaired or replaced as needed.

Hydrant Flushing Program

The department performs flushing of all water mains that dead end. The department performs the annual Hydrant Flushing Program in the spring and fall months. This program is done to ensure that these dead ends meet all water quality standards. An added plus of this program is that it cleans the water main that is being flushed as well.

Water System Modeling

Typically, on an annual basis, the department has an engineering firm run a model that incorporates variables of how our system performs during certain instances. The department receives many model runs from this process and one example of these would be a model that depicts the pressure throughout the system during times of peak demand. The department also receives information on velocities, flow rates and other valuable miscellaneous information. This information is used in the decision making process during the planning phase of water system related construction projects.

The information provided by the modeling is also useful in determining ways in which to improve the hydraulics and water quality of the department's water system.

Pressure Testing

The department performs annual pressure testing throughout the water system. The information that is accumulated from these tests is used in making revisions to our Hydraulic Water Model. Once the model has been

updated, from our current pressure readings, we then identify and evaluate areas that may need to be addressed due to the various scenarios that have been incorporated into the model.

REHABILITATION

The following activities conducted by the Public Services Department are categorized as **rehabilitation** activities:

Water Meter Upgrade Program

The department is in the final stages of implementing a new meter reading technology known as a Mesh System. This system will read all of our water meters with a click of a button; a click of the button in the confines of an office setting! This technology will eliminate the need to either drive by or personally visit a particular meter in order to get a reading. This technology will also allow us to greatly improve the quality of service that is provided to our customers through better response times and by providing the customer with a multitude of tools to monitor their usage.

Water Main Rehabilitation Program

The department evaluates the condition of water mains annually using water main break history as well as a Water Main Rehabilitation Matrix. This process allows the department to identify areas of the distribution system that are in need of repair. One of the techniques used in rehabilitating a water main is called relining. This process allows for the upgrading of the structural integrity of the water line as well as improving on the water main's C-Factor. The C-Factor rates the smoothness of the inside of the water main and also relates to the hydraulic condition of the main. The better the C-Factor the more easily the water can travel through the main causing less issues such as air in the water, which makes the water appear milky. Although this type of program can be expensive, it is far less intrusive and disruptive to the public because there is no need to perform any extensive excavation work.

Water Valve Rehabilitation Program

The department evaluates information from inspection records to determine any valves that may meet the criteria to be rehabilitated. As mentioned in valve exercising, it is crucial to have valves in good working condition as to reduce the need for any unnecessary disruptions in service when water system repairs are necessary. Usually valve rehabilitation and water main rehabilitation are performed as a joint project on a particular section of the water system.

Fire Hydrant Rehabilitation Program

The department evaluates the information from inspection records and other sources of information to determine which fire hydrants meet the criteria to be rehabilitated. One of those other sources of information on the condition of the department's fire hydrants is the Fire Departments. The local Fire Departments routinely exercise our hydrants while taking pressure readings. Due to the vested interest in hydrants that are fully operational, the local fire departments are very proactive in notifying the department of any deficiencies that they may come across. Unlike the water valves, fire hydrants are routinely rehabilitated separately from the rehabilitation of other items.

Rehabilitation activities will make up a vast majority of the budget amount that is designated to operate the water system.

Water Main Relining

This technique is considered to be a quality alternative to complete replacement. There are two types of relining that we can utilize; structural and non-structural. To better serve the needs of our system, we only utilize structural relining.

Structural relining allows for a non-invasive approach that practically accomplishes the same thing complete line replacement does; a clean, strong system that will last for decades. The product that is used to line the old water main is strong enough to stand alone as its own pipe. Add that to the fact that when a structural relining project

takes place; valves, meter setters and fire hydrants are replaced with new devices, one can see how this is highly effective.

As costs related to this technique begin to fall, the department will look to utilize this process more and more.

REPLACEMENT

The following activity conducted by the Public Services Department is categorized as a **replacement** activity:

Complete Line Replacement

This replacement technique is utilized when a water main or its attached devices have reached a point that rehabilitation strategies do not adequately address the issues. This technique can also be utilized to address water delivery capabilities as well as water quality issues.

Each replacement project is very unique and will utilize a variety of engineering techniques. The department will base its decision of replacement on a multitude of information. Some of this information will come from inspection reports on water appurtenances. These inspections allow for the rating of the condition of a specific device or a section of water main. Based on these condition assessments a number is associated with the deficiency and a water main replacement matrix is then generated. It is through this matrix that the department is able to correctly identify parts of the water system that are in need of replacement.

Due to the extensive excavation and disruption of service, replacement is usually the last resort in the department's water system strategies.

CITY OF FLORENCE PUBLIC SERVICES

DRINKING WATER INFRASTRUCTURE BUDGET & SCHEDULE

2016-2021 FISCAL YEARS

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Locust Avenue Phase II*	Water Main Replacement	
Old Water Meter Pit Eliminations	Eliminating Old (No Longer in Service) Meter Pits	
Summer Place/Ockerman School Campus	Water Main Installation With Meter Pit	
Fire Hydrants	Replacement Program	
System Valves	Valve Replacement Program	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Woodland Avenue*	Water Main Replacement	
Grand Avenue Phase I	Water Main Relining	
Fire Hydrants	Replacement Program	
System Valves	Valve Replacement Program	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Grand Avenue Phase II	Water Main Relining	
Julia Avenue/Dell Street/Ann Street *	Water Main Replacement	
Fire Hydrants	Replacement Program	
System Valves	Valve Replacement Program	

Total

2019-2020

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Kentaboo Avenue *	Water Main Improvements Phase I	
System Valves	Valve Replacement Program	

Total

2020-2021

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Kentaboo Avenue *	Water Main Improvements Phase II	
System Valves	Valve Replacement Program	

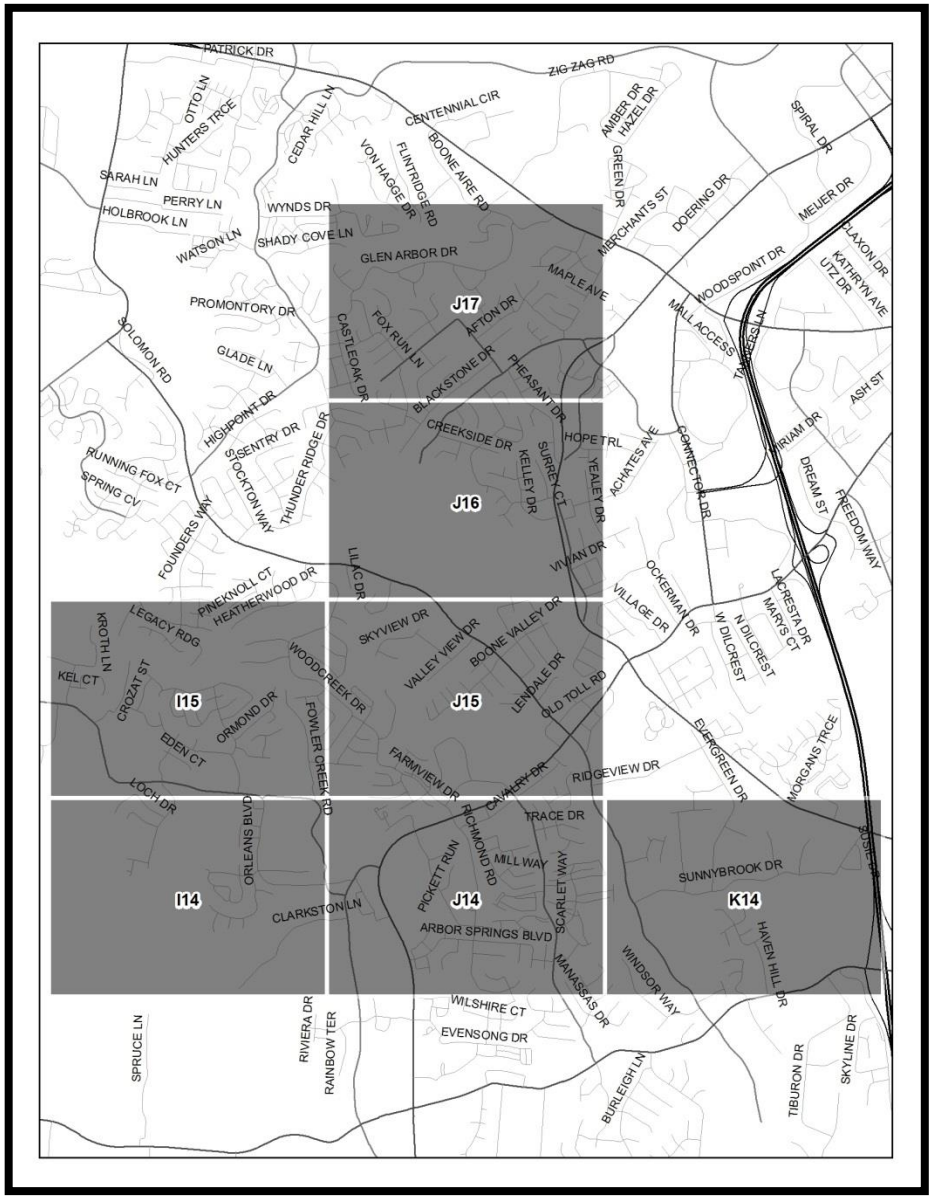
Total

*In conjunction with Street Improvement Project.

WATER DIVISION SCHEDULED (IN-HOUSE) REPAIRS

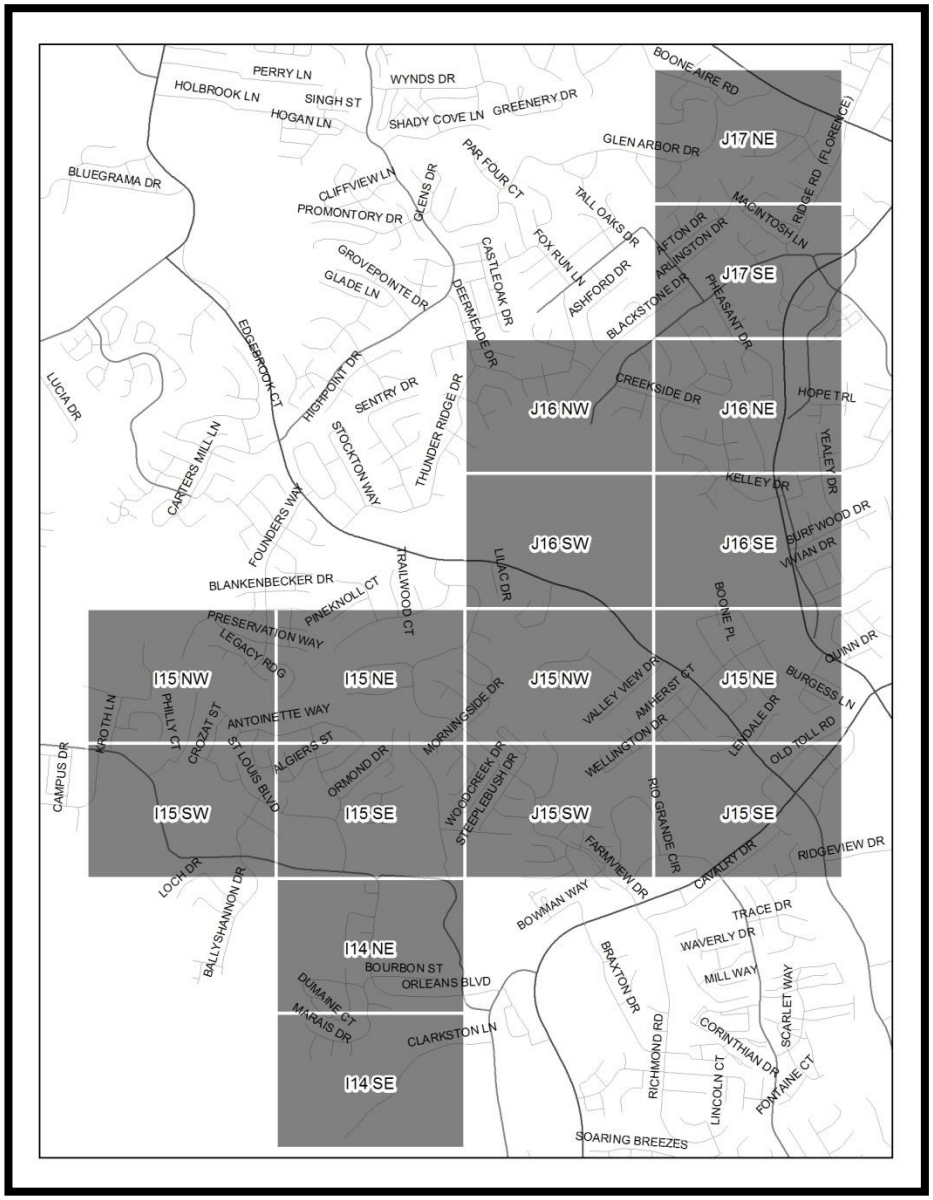
VALVE INSPECTIONS

This program involves the exercising of **all** critical valves and **all** of the secondary valves in Zone Four.



FIRE HYDRANT INSPECTIONS

This program involves the inspection of **all** fire hydrants in Zone Three.



Fire Hydrant Replacement:

This program identifies all fire hydrants that need replacement due to either the age of the hydrant or the availability of parts. A list of these hydrants follows:

Dresser		
Address	**Hydrant Number**	**Manufacturer**
8581 WINTHROP CR	J15-79	Dresser
8591 WINTHROP CR	J15-82	Dresser
8568 WINTHROP CR	K15-74	Dresser
8554 WINTHROP CR	K15-82	Dresser
MALL ROAD	K16-137	Dresser
8122 DIANE DR	K16-75	Dresser
SERVICE ROAD	K17-65	Dresser
348 CENTER PARK DR	K17-7	Dresser
MALL CIRCLE RD	K17-8	Dresser
279 MERRAVAY DR	L16-108	Dresser
249 MERRAVAY DR	L16-109	Dresser
7518 US 42	L16-20	Dresser
NIBLACK MEMORIAL DR	L16-30	Dresser
90 GOODRIDGE DR	L17-100	Dresser
7436 LIBERTY CT	L17-111	Dresser
Dresser (M&H)		
Address	**Hydrant Number**	**Manufacturer**
9012 STEEPLEBUSH DR	J15-53	Dresser (M&H)
8843 VALLEY CIRCLE DR	J15-4	Dresser (M&H)
125 PINEHURST DR	L16-110	Dresser (M&H)
6948 OAKWOOD DR	L18-75	Dresser (M&H)
7056 BURLINGTON PIKE	L17-52	Dresser (M&H)
5920 CURTIS WAY	L18-56	Dresser (M&H)
8193 MALL RD	K16-155	Dresser (M&H)
8134 DIANE DR	K16-157	Dresser (M&H)
FARMVIEW DR	J15-129	Dresser (M&H)
109 PINEHURST DR	L16-150	Dresser (M&H)
6928 OAKWOOD DR	L18-67	Dresser (M&H)
110 PINEHURST DR	L16-151	Dresser (M&H)
WATEROUS		
Address	**Hydrant Number**	**Manufacturer**
216 BURGESS LN	J15-9	Waterous
7753 MALL RD	K16-116	Waterous
7635 MALL RD	K17-125	Waterous
212 CLAXON DR	K17-45	Waterous
7553 MALL RD	K17-70	Waterous
7415 BURLINGTON PIKE	K17-75	Waterous
7309 BURLINGTON PIKE	L17-85	Waterous
21 RUSSELL ST	L17-105	Waterous
7714 WALNUT CREEK DR	L17-170	Waterous
6599 NICHOLAS ST	L17-37	Waterous
6555 NICHOLAS ST	L17-50	Waterous
6303 CLARK ST	L18-38	Waterous
6914 OAKWOOD DR	L18-46	Waterous
6908 OAKWOOD DR	L18-48	Waterous
6744 ASHGROVE PLACE	L18-54	Waterous
221 RUSSELL STREET	L17-165	Waterous

CITY OF FLORENCE PUBLIC SERVICES

SANITARY SEWER REPAIR POLICIES AND APPROACH

FISCAL YEARS 2016-2021

INTRODUCTION

The City of Florence Sanitary Sewer System consists of **132** miles of sanitary sewer line, **3,429** manholes and **6** pump stations. The Public Services Department is responsible for the maintenance and management of this system.

The department provides project management, preventative maintenance, repairs and regulatory compliance requirements for the system. Duties performed by departmental personnel include system cleaning, CCTV inspections, smoke & dye testing, flow monitoring, and pump station maintenance and system repairs. The department is also responsible for the project management of contracted work, oversight of engineering studies, as well as, inspection and acceptance of new construction by developers.

The City transports its sewage to Sanitation District 1 (SD1) by both gravity and pumping for treatment. All stations are monitored 24 hours a day, 7 days a week with Sensaphone Telemetry Units set with alarm conditions. Greenview Pump Station is equipped with a permanent backup generator. The remaining five pump stations are wired with transfer switches to plug in portable generators, if necessary.

The City of Florence is one of only two cities within the three Northern Kentucky Counties that continues to maintain its own water, sanitary sewer, and storm sewer systems. This full service approach has always been a source of pride to the mayor, city council, employees, and residents of the City of Florence. It has always been the belief of the City that through this full service approach we can deliver to the residents a higher level of customer service, which is both efficient and fiscally responsible.

The City owned sanitary sewer collection system has 64 miles of clay pipe that was constructed in the 1960's to 1970's, 4 miles of concrete pipe that was constructed in the 1970's to 1980's and 68 miles of PVC pipe that was constructed in 1990's to the 2000's. The pipes range in size from 6" to 30".

There are several transfer points from which flows from SD1 enter and pass through the City system. There are four points, known as Biggs, Sanders, Fowler Creek and Tee from which all sewage enters the SD1 collection system for treatment at either SD1's Dry Creek or Western Regional Wastewater Treatment Plan, as the City does not provide municipal sewage treatment.
The remainder of this document presents a brief outline of the department's sanitary sewer management strategies. The strategies outlined in this document will illustrate how the City strives to maintain the sewer system using the latest systematic approaches while constantly searching for low cost repairs strategies.

SANITARY SEWER MANAGEMENT STRATEGIES

The City of Florence Public Services Department utilizes four distinct sanitary sewer management strategies in its daily routine. These strategies can be organized as follows:

- Routine Maintenance
- Preventive Maintenance
- Rehabilitation
- Replacement

The remainder of this document will provide an overview of the strategies we provide.

ROUTINE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **routine maintenance** activities:

Manhole Inspection

Manhole inventories and inspections are conducted in the field and documented in Lucity. During the inspection process, each manhole is geographically fixed with the use of a handheld global positioning system with sub-meter accuracy. Digital photos are taken of the site, manhole layout and any abnormalities present. These photos are attached to both the inventory and the inspection record within Lucity. All condition ratings are filtered through a weighted matrix. This produces a Structural Condition Number that provides direction with our manhole rehabilitation efforts.

Main Line Televising

The division operates a state-of-the-art Cues CCTV Inspection Truck with a self-propelled LAMP (lateral and mainline probe) system. The *self-propelled* LAMP accomplishes a one-pass pan and tilt inspection of the mainline ranging from 6" through 24" diameter, with a simultaneous inspection of the adjacent lateral services up to 80 ft. Equipped with two high-resolution cameras, the LAMP picture in picture feature enables the operator to monitor the pan and tilt inspection of the mainline and launch a camera from the mainline to inspect the adjacent lateral service. LAMP is an essential inspection tool for identifying infiltration and inflow, solids accumulation, root infiltration, pipe defects, and the structural condition of lateral services and mainline sewers.

The Sanitary Sewer Division has a dedicated CCTV inspection crew televising the system daily. Each year the sewer division starts in one of the six sewer sheds scheduled for that year and televises the sewer main lines. It takes four years to televise all six sewer sheds.

PREVENTIVE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **preventive maintenance** activities:

Pre & Post Flow Monitoring

The Public Services Department began its flow monitoring program in 2003. Realizing the importance of benchmark and historical data as a guide for directing the Storm water Removal Program as well as quantifying the success of the program; the department embarked on developing a flow monitoring program that was as comprehensive and effective as could be found in both the public and private sector. The City currently follows stringent guidelines from Barton Engineering Consulting Service. This program includes a well-documented systematic approach to flow monitoring.

Exterior Commercial/Residential Smoke & Dye Testing

The smoke & dye testing program has seen increased documentation and procedural changes. Currently smoke testing is conducted in the traditional manner with both public and private occurrences documented on field logs and evidenced with a digital photographic record. The field logs are data processed into Lucity with the photographic record attached. Dye testing is used to confirm smoke occurrences. The results are documented on field logs, data processed into the GBA, and a Violation Sketch is created for private source violations. All confirmed occurrences are then filtered to their respective rehabilitative sub-program for remediation.

Main Line Jetting

The sewer division has created a list of troublesome main lines throughout the City that require additional attention each month. This list is developed based on problems with roots, grease, mineral deposits, etc.… Each location has a severity rating that determines how many times a month or year that these areas must be addressed until repairs have been made.

The sewer division also performs daily cleaning in specific sewer sheds based on the location of the TV truck, approximately 15,000 linear feet of main line sewer is cleaned each month. It takes approximately 4 years to clean all main lines in the City.

Sump Pump Amnesty Program

The program is intended to allow residents to have their sump pump systems tested to ensure there are no illicit connections. Under this program residents can take advantage of the City's reimbursement ordinance (0-21-00) to help cover the cost of the removal of an illicit connection. To learn more about the Sump Pump Amnesty Program, visit our website at www.florence-ky.gov.

REHABILITATION

The following activities conducted by the Public Services Department are categorized as **rehabilitation** activities:

Main Line Relining

The sewer division is focusing on developing economical and permanent systems for infrastructure repair and corrosion protection. Storm water infiltration and deterioration caused by hydrogen sulfide gas (H2S) are the main factors when considering a location for sewer main relining. Sewer lines are evaluated yearly by the use of Closed Caption Television (CCTV) inspections. These inspections are then rated in accordance with Lucity Infrastructure Management Software. The rated scale allows us to prioritize our rehabilitation needs and time frames in which to complete the work. Currently, all main line relining is bid out to an outside contractor.

Manhole Rehabilitation

The sewer division performs manhole inspections daily to develop a prioritized list for manhole repairs. Many of the issues found are infiltration, H2S presence and the need for seal tight lids on manholes. Each of these deficiencies is rated to help determine the appropriate rehabilitation method needed for that specific location. The sewer division currently performs in house rehabilitation methods such as installing seal tight lids, sealing joints in the manhole and replacing sections of a manhole. All manholes relined at this time are bid out to an outside contractor.

REPLACEMENT

Replacement techniques are utilized when a sewer main line or manhole has reached a point that rehabilitation strategies do not adequately address its problems. Each replacement project is unique and a variety of engineering techniques are used to improve the condition. The sewer division performs inspections on all sewer infrastructure and rate the condition of a specific problem. Based on the condition assessment number associated with the problem a replacement list is then developed. The department bids out main line replacement work to an outside contractor.

CITY OF FLORENCE PUBLIC SERVICES

SANITARY SEWER INFRASTRUCTURE BUDGET & SCHEDULE

2016-2021 FISCAL YEARS

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Sanders Sewer Shed	Sanitary Main Line Relining	
Sanders Sewer Shed	Sanitary Manhole Relining	
Florence Heights Relining Project	Sanitary Main Line Relining	
Burk SSO Elimination Project	SSO Elimination Project	

Total

SPECIALLY FUNDED PROJECT

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Aero Parkway Pump Station	Construction of Force Main and Pump Station	

Total

Sanitary Televising:
Televising of sanitary sewer lines and manholes will be performed in the Fowler Sewer Shed.

Sanitary Cleaning:
Sanitary sewer cleaning will take place in the Fowler Sewer Shed.

Manhole Rehab:
The rehabilitation of existing manholes is done to eliminate storm water infiltration. This will take place in the Rosetta Sewer Shed.

Smoke and Dye Testing:
Smoke testing will take place in the Biggs Sewer Shed.

Sump Pump Amnesty:
This activity will take place in the Sanders Sewer Shed.

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Interstate Relining Project	Sanitary Main Line Relining	
Tee Sewer Shed	Sanitary Main Line Relining	
Tee Sewer Shed	Sanitary Manhole Relining	
Sanders Sewer Shed	Sanitary Manhole Relining	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Fowler Sewer Shed	Sanitary Main Line Relining	
Fowler Sewer Shed	Sanitary Manhole Relining	
Tee Sewer Shed	Sanitary Manhole Relining	

Total

2019-2020

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Pheasant Sewer Shed	Sanitary Main Line Relining	
Pheasant Sewer Shed	Sanitary Manhole Relining	
Fowler Sewer Shed	Sanitary Manhole Relining	

Total

2020-2021

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Biggs Sewer Shed	Sanitary Main Line Relining	
Biggs Sewer Shed	Sanitary Manhole Relining	
Pheasant Sewer Shed	Sanitary Manhole Relining	

Total

2016 In-House Manhole Rehab List

Manhole	*Address Number*	*Street Name*	*Street Type*
L17-341	7320	DIXIE	Highway
K17-200	3000	MALL CIRCLE	Road
L17-277	7211	US 42	Highway
K16-187	16	MIRIAM	Drive
L16-130	123	VALLEY	Drive
L16-318	63	CIRCLE	Drive
L17-299	1	SMITH	Street
L17-304	7348	US 42	Highway
K17-210	355	CENTER PARK	Drive
K17-212	418	FOSTER	Avenue
K17-216	7709	MALL	Road
L17-333	11	FAIR	Street
L16-5	2	VALLEY	Drive
L16-11	7	SCOTT	Drive
K16-9	37	LAKE	Drive
J16-49	102	HILLSIDE	Drive
K16-413	7664	CATAWBA	Lane
K16-414	7660	CATAWBA	Lane
K17-184	304	CENTER PARK	Drive
L16-17	3	BECKER	Lane
K16-12	7745	PLANTATION	Drive
K16-14	7900	TANNERS GATE	Lane
L16-21	35	NEW URI	Avenue
L16-24	7414	DIXIE	Highway
K16-347	175	ROSETTA	Drive
L16-107	12	BURK	Avenue
J16-183	46	VIVIAN	Drive
L16-294	4	BURK	Avenue
K16-304	281	ROSETTA	Drive
K16-308	8126	DIANE	Drive
J16-188	62	VIVIAN	Drive
J16-189	66	VIVIAN	Drive
K16-328	8127	MALL	Road
K16-329	8100	US 42	Highway
K16-330	8127	MALL	Road
K16-333	8127	MALL	Road
K16-335	8140	MALL	Road
K16-337	14	AIRVIEW	Avenue
J16-191	68	VIVIAN	Drive
K16-349	8053	HOLIDAY	Place

L16-208	67	CIRCLE	Drive
L16-210	65	CIRCLE	Drive
K15-3	8131	US 42	Highway
K15-7	8203	US 42	Highway
K15-15	8250	US 42	Highway
L16-257	7800	DIXIE	Highway
L16-258	7800	DIXIE	Highway
L16-162	36	ALAN	Court
L16-174	38	CIRCLE	Drive
K16-217	323	WESTMINSTER	Court
K16-218	42	MIRIAM	Drive
L16-185	20	GRAND	Avenue
K16-81	175	ROSETTA	Drive
K16-82	8140	MALL	Road
K16-95	8142	MALL	Road
K16-101	8148	MALL	Road
K16-140	8116	DIANE	Drive
J16-50	9	VIVIAN	Drive
J16-52	3	VIVIAN	Drive
K16-153	8142	DIANE	Drive
L16-39	66	BURK	Avenue
L16-43	16	ANN	Street
K16-25	192	ROSETTA	Drive
L16-49	7764	ANCHOR	Way
L16-53	7815	DIXIE	Highway
L16-55	10	ANN	Street
K16-253	7720	HOLLYWOOD	Drive
J16-159	9	LAKESHORE	Drive
K16-273	828	HEIGHTS	Boulevard
L16-280	7810	DIXIE	Highway
L16-288	7816	DIXIE	Highway
L16-64	54	BURK	Avenue
J16-34	13	KENNEDY	Court
L16-82	7548	CANTERBURY	Court
L16-84	126	ROGER	Lane
J16-36	10	KENNEDY	Court
K16-49	236	SURFWOOD	Drive
K16-157	8101	US 42	Highway
K16-161	7534	CAROLE	Lane
K16-166	8109	US 42	Highway
K16-168	8113	US 42	Highway
K16-357	7905	FREEDOM	Way
K17-250	7654	MALL	Road
L17-215	7414	SHENANDOAH	Drive

L16-1	7320	DIXIE	Highway
L16-33	66	BURK	Avenue
L16-265	20	JULIA	Avenue
L16-354	7487	LENORE	Lane
K16-162	8218	US 42	Highway
K16-271	38	ACHATES	Avenue
K16-272	38	ACHATES	Avenue
K16-7	7851	TANNERS	Lane
K16-203	220	BUCKINGHAM	Drive
J16-149	109	YEALEY	Drive
L17-406	200	CHRISTIAN	Drive
K16-478	7958	US 42	Highway
K16-443	8133	CONNECTOR	Drive
K16-119	8129	MALL	Road
K16-482	8049	CONNECTOR	Drive
K16-293	8145	CONNECTOR	Drive
L16-18	101	FAIR	Court
K16-299	8127	MALL	Road
K16-45	7961	US 42	Highway
L16-105	155	ROGER	Lane
L16-99	147	ROGER	Lane
L17-208	50	RUSSELL	Street
L17-259	7404	LIBERTY	Court
L17-476	7312	DIXIE	Highway
L16-259	10	JULIA	Avenue
L17-327	19	SCOTT	Drive
L16-392	34	GRAND	Avenue

CITY OF FLORENCE PUBLIC SERVICES

STORM SEWER REPAIR POLICIES AND APPROACH

FISCAL YEARS 2016-2021

INTRODUCTION

The City of Florence Storm Sewer System consists of **142** miles of storm conduit, **2,897** curb inlets, **604** manholes, **20** City maintained detention/retention basins and **253** privately maintained detention basins. The Public Services Department is responsible for the maintenance and management of the system, as well as, ensuring compliance with the federally mandated **Storm Water Phase ll Program**.

The department provides project management, preventative maintenance, improvements, repairs and regulatory compliance requirements for the system. Duties performed by the departmental personnel include system cleaning, CCTV inspections, new installation and system repairs. The department is also responsible for project management of contracted work, oversight of engineering studies, as well as inspection and acceptance of new construction by developers.

The Public Services Department performs yearly inspections on both City maintained and privately maintained detention basins. This information is entered into the Departments Computerized Maintenance Management System (GBA). The department is also in the process of collecting inventory and condition assessment information and entering that data into the GBA and GIS systems.

The City established a storm water system with a user fee in 1992. The City's first storm water master plan was completed in 1990 and subsequent updates were completed in 2005. The storm water collection system was first installed in the 1950's and consists of PVC, concrete and galvanized metal piping with a small portion of the system being open ditch type. As part of the 2005 storm water master plan update the City clearly defined "Waters of Florence " in order to delineate private and public storm water issues.

STORM SEWER PHASE II PROGRAM

In 2003, the US EPA's National Pollution Discharge Elimination System (NPDES) program for Kentucky began requiring that municipalities within urbanized areas obtain storm water discharge permits to better manage their publicly owned storm water collection and discharge systems from town roads and properties. The objective of these newly issued water quality permits (called the Phase II MS4 permits), was to minimize the impacts to water quality and wetlands from these municipally owned storm water discharge systems.

The City of Florence is a Phase II Community and has designed its storm water program to reduce the discharge of pollutants to the maximum extent practicable, protect water quality and satisfy the appropriate water quality requirements of the Clean Water Act. Implementation of Best Management Practices (BMP's) are in place and measurable goals are assigned to satisfy each of the six minimum control measures, which are:

- Public Education & Outreach
- Public Involvement & Participation
- Illicit Discharge & Elimination
- Construction Site Runoff
- Post Construction Runoff Control
- Pollution Prevention & Good Housekeeping

STORM SEWER MANAGEMENT STRATEGIES

The City of Florence Public Services Department utilizes four distinct storm sewer management strategies in its daily routine. These strategies can be organized as follows:

- Routine Maintenance
- Preventive Maintenance
- Rehabilitation
- Replacement

The remainder of this document will provide an overview of the strategies we provide.

ROUTINE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **routine maintenance** activities:

Manhole Inspection

Storm sewer inventories and inspections are conducted with the use of a GBA Field Module. This allows for the deployment of the infrastructure management system into the field on ruggedized laptops. Both inventory and inspection data are collected and entered into the field module on-site, reducing potential data processing mistakes. During the inspection process, each structure is geographically fixed with the use of a handheld global positioning system with sub-meter accuracy. Digital photos are taken of the site to document the manhole layout and any abnormalities that may be present. These photos are attached to both the inventory and the inspection record within the GBA. This data is synchronized with the Master GBA in the office. During the inspection, problems are logged into the field module and filtered through a weighted matrix. This produces a structural condition number that will provide direction with our storm sewer rehabilitation efforts.

Main Line Televising

The department operates a state-of-the-art Cues CCTV Inspection Truck with a self-propelled LAMP (lateral and mainline probe) system. The *self-propelled* LAMP accomplishes a one-pass pan and tilt inspection of the mainline pipes 6" and larger. Equipped with a high-resolution camera, the LAMP picture in picture feature enables the operator to monitor the pan and tilt inspection of the mainline. LAMP is an essential inspection tool for identifying infiltration and inflow, solids accumulation, root infiltration, pipe defects, and the structural condition of mainline storm sewers.

Detention/Retention Basin Inspection

The Engineering and Inspection Services (EIS) Division inspects all privately and City owned basins throughout the City. Repairs are documented on a field form and entered into the GBA database for record keeping and for use of developing a repair list for field crews on City owned basins. For any privately owned basins that require additional attention, letters are developed for these owners stating the appropriate measures that are required to make the basin function at its designed capacity. Common deficiencies found in basins are debris, erosion, failure of inlet or outlet structures, sediment accumulation and other miscellaneous deficiencies that could prevent the basin from working at its optimum level.

PREVENTIVE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **preventive maintenance** activities:

Storm Inlet Cleaning

City crews perform inspections and cleaning after each significant rain event to make sure that storm inlets stay free of debris. The department refers to any structures that accumulate debris or that are an issue during rain events as "choke points". The Sanitary Sewer Division is equipped with a Vactor truck that is capable of removing all debris from specified choke points and disposing of the debris in an appropriate manner. A designated crew is responsible for inspecting all storm inlets throughout the City during a rain event.

Main Line Jetting

The City has created a list of troublesome main lines throughout the City that require additional attention each month. This list is developed based on problems with roots, sediment, flooding and other miscellaneous issues. Each location is given a severity rating that determines how many times a month or year that these areas must be addressed until the proper repairs can be made. The City has one crew dedicated to the Storm Sewer Cleaning and Preventive Maintenance Program.

Edge Drains

Edge drains collect storm water drainage behind the curb before it hits the street. It then directs the collected storm water into the storm sewer system at catch basins. The City installs edge drains at locations where drainage issues are a problem. Many of these locations are chosen based on icy spots in the street found during the winter. Edge drains help protect the streets from storm water runoff that can wash away the subgrade causing the streets to fail before their life expectancy is up.

REHABILITATION

The following activity conducted by the Public Services Department is categorized as a **rehabilitation** activity:

Watershed Analysis

The City of Florence conducts studies on flooding and drainage issues throughout the City's multiple watersheds. The studies are conducted over a period of time in which data collection, data analysis, preparation of findings and recommendations are made. The use of flow monitors and rain gauges are used to compile data to evaluate a watershed's flow capacity and performance during different rain events. The data is then extrapolated out to show what different rain events do to a watershed. The studies also include a section of resident's interview comments. These residents are asked to explain what they feel their watershed is doing during different rain events. After each watershed analysis, recommendations are developed, prioritized and budgeted for repairs. Some activities generated from these studies could include bank stabilization, pipe relining, grading, re-channeling and other miscellaneous activities.

REPLACEMENT

The following activity conducted by the Public Services Department is categorized as a **replacement** activity:

Replacement

Replacement techniques are utilized when a storm sewer main line or manhole has reached a point that rehabilitation strategies do not adequately address its problems. Each replacement project is unique and a variety of engineering techniques are used to improve the condition. The City performs inspections on all storm sewer infrastructure and then rates the condition of this infrastructure based on any specific problems. Upon the completion of the inspections a condition number is associated with the problem. Once the condition numbers have been compiled, a replacement list is then developed.

CITY OF FLORENCE PUBLIC SERVICES

STORM WATER INFRASTRUCTURE BUDGET & SCHEDULE

2016-2021 FISCAL YEARS

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Storm Water Improvements	Improvements Associated with Street Repairs	
Storm Water Improvements	Improvements Associated with Immediate Need Projects	
Cayton Detention Basin	Storm Water Improvements	
Monahan Storm Project	Storm Water Improvements	
Rosetta Stream Bank Stabilization Project	Storm Water Improvements	
Senior Center Rock Check Dam/Access Road	Storm Water Improvements	
Reforestation Project	Water Quality Tree Planting	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Storm Water Improvements	Improvements Associated with Street Repairs	
Storm Water Improvements	Improvements Associated with Immediate Need Projects	
Bob Evens Project	Storm Water Improvements	
Bustetter Drive Phase II	Storm Water Improvements	
Toys R Us Project	Storm Water Improvements	
Reforestation Project	Water Quality Tree Planting	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Storm Water Improvements	Improvements Associated with Street Repairs	
Storm Water Improvements	Improvements Associated with Immediate Need Projects	
Kentaboo Watershed Study	Watershed Study	
Master Planning	Professional Consulting Studies	
Reforestation Project	Water Quality Tree Planting	

Total

2019-2020

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Storm Water Improvements	Improvements Associated with Street Repairs	
Storm Water Improvements	Improvements Associated with Immediate Need Projects	
Kentaboo Watershed	Watershed Improvements	
Reforestation Project	Water Quality Tree Planting	

Total

2020-2021

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Storm Water Improvements	Improvements Associated with Street Repairs	
Storm Water Improvements	Improvements Associated with Immediate Need Projects	
Tamarack Watershed Study	Watershed Improvements	
Southern Trails Project	Storm Pipe Installation	

Total

CITY OF FLORENCE PUBLIC SERVICES

PARKS POLICIES AND APPROACH

FISCAL YEARS 2016-2018

INTRODUCTION

The City of Florence Public Services Department is responsible for maintenance and upgrades on all City parks, grounds, paths and sidewalks. The Public Services Department strives to enhance the quality of life for Florence residents. Well maintained, accessible, quality parks and green spaces can shape our City's image. A sound parks and grounds policy concerning maintenance and capital improvements on City owned property helps enhance the quality of life for our customers.

The Department strives to achieve a variety of goals with the Parks and Grounds Management Policy. These goals include:

- Maintain safe and clean facilities.
- Provide a compelling vision for the future of the City and its parks.
- Provide involvement and contribution opportunities for neighborhoods, volunteers, and individuals.
- Create, preserve and enhance green space and park linkage systems.
- Beautify and visually enhance the City's open space system.

Florence currently owns and maintains **11** parks. Full development of these parks will go a long way toward providing the City with a recognizable identity in the region.

A cooperative agreement exists between Boone County Parks & Recreation Department (BCPR) and the City of Florence. In general, the BCPR and City of Florence partner up in the maintenance and management of the Florence Nature Park, Lincoln Woods Park and Skate Park. In some cases, BCPR is responsible for management of contractual repairs and 50% of the cost. The City pays the remaining 50% of the cost in these instances.

MAINTENANCE

The Public Services Department is responsible for detail grass cutting and any upgrades to BCPR services. This includes the maintenance of all landscape planting areas and trees (purchase and installation, mulch, fertilizer, watering, weeding); installation, maintenance and improvements to parking and walkway areas (pothole patching, pavement repairs, pavement sealing/striping, walkway installation, edging); scheduling use of parks/shelters. Additionally, the Department is responsible for capital improvements to the City's parks, including all master plan implementations and construction of new facilities.

This document presents a brief outline of the Department's park management strategies. The strategies will illustrate how the City strives to maintain and develop our Parks.

This document is updated annually and will include any advances in this field that the City has or will implement as well as any changes that need to be implemented due to various factors. The information used in order to come up with the best strategies, in regards to park improvements, are acquired from many resources such as master planning, funding, location etc...

INVENTORY

The parks and recreational facilities evaluated in this report are listed as follows:

Florence Nature Park

This 15 acre park was acquired in 1986.

Florence Nature Park is located off of Banklick Drive. Features include the Evelyn M. Kalb Gathering House, walking trails, restrooms, gazebo, grill, drinking fountain, parking lots and open space.

Lincoln Woods Park

This 15 acre park was developed in 1985.

Lincoln Woods Park is located on City Park Drive, accessible off Surfwood Drive or Rosetta Drive. Features include basketball court, tennis court, baseball/softball fields, playground area, shelter, grill, restrooms, drinking fountain and parking lots.

Orleans Park

Acquired in 2000 the 9.5 acres was donated by Fischer Development and the City purchased an adjoining 1.5 acres to make this an 11 acre active park.

Orleans Park is located within the Orleans North subdivision. The neighborhood park consist of a bridge, sled hill, basketball court, tennis court, volleyball court, playground area, open field space, restroom, drinking fountain, paved trail, parking lot, grill and picnic shelter.

South Fork Park

Acquired 5 acres in 1997 and 37 acres in 2000. All land was donated by the Farmview Subdivision Developer. This made South Fork a 42 acre active park.

South Fork Park is located within the Farmview subdivision. The park features over ½ mile of walking/ bike paths, a pedestrian bridge, natural wooded / meadow areas, open play area, shelter, grill, restroom, drinking fountain, playground area, parking lot, basketball and volleyball courts.

Stringtown Park

This 8 acre park was purchased by the City in 2001.

Stringtown Park is located on Burlington Pike / KY 18 between Kathryn Avenue and Wallace Avenue. Features include a walking trail / bike path, playground area, basketball court, cornhole stations, grill, restroom, drinking fountain, shelter, open green space and parking lot.

Kentaboo Park

Kentaboo Park is located off of Clark Street. Access is through residential streets off of Kentaboo Avenue. This park is currently undeveloped.

Walnut Creek Park

This 2.5 acre neighborhood park contains open green space and is accessible from Cedar Wood Circle via a concrete walking path. Parking is available on the street.

Skate Park

The 22,000 sq. ft. facility was a joint project between the City of Florence and Boone County designed by Suburban Rails and Brandstetter Carroll.

Skate Park is located on the north end of the Florence Government Center Campus. Features include shelters, seat walls, drinking fountains, restrooms, parking lot and 3 levels of rider difficulty play areas. A street plaza

section for beginners, street course section for intermediate users and advanced bowls for the more experienced.

Boone County High School Tennis Court

The tennis courts are located on Burlington Pike / KY 18, adjacent to Boone County High School.

World of Golf

This 65 acre property / facility is owned by the City of Florence. In 2011 the existing building, mini golf and maintenance building were replaced with new.

World of Golf is located on Woodspoint Drive adjacent to I-75/71 off of Burlington Pike / KY Route 18. Features include an 18 hole par 3 golf course, 18 hole miniature golf course, indoor & outdoor driving range, swing analysis equipment, indoor putting green, pro shop, simulator, video game machines, restaurant and shelter.

CITY OF FLORENCE PUBLIC SERVICES

PARKS INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEARS 2016-2018

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Lincoln Woods Park	Tennis Court Replacement	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Boone County High School	Tennis Court Re-Surfacing	
Lincoln Woods Park	Interior Building Improvements	

Total

UNFUNDED PARK IMPROVEMENTS

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Kentaboo Park	Grading, Infrastructure Improvements, Parking Lot, Playground, Shelter, Bathrooms, Landscaping	
Nature Park Master Plan Improvements	Creek Water Quality Feature, Picnic Shelter, Pathway Improvements, Overlook Pavilion, Gazebo Gateway Features	
Ni-Black Park	Grading, Infrastructure Improvements, Parking Lot, Playground, Shelter	
South Fork Park	Sport Court	
South Fork Park	Splash Pad	
South Fork Park	Lower Playground	
Orleans Park	Overlook Pavilion	

CITY OF FLORENCE PUBLIC SERVICES

FACILITY POLICIES & APPROACH

FISCAL YEARS 2016-2021

INTRODUCTION

The Public Services Department maintains and manages **21** City owned buildings. These buildings contain approximately **220,731** square feet of space. The Department defines buildings as the actual structure and does not include the grounds area of the property. Management responsibilities vary from building to building depending upon use and tenant agreements. Maintenance responsibilities include: HVAC systems, electrical systems, plumbing systems, elevator, management of equipment service and maintenance contracts, fountains, suppliers lists, fire alarm systems, sprinkler systems, communications and data systems, cleaning, minor repairs, painting, and capital upgrades. Since each building is unique, all of these responsibilities are not required on all of the buildings.

This document presents a brief outline of the Department's facility management strategies. It will illustrate how the City strives to maintain and develop our Facilities.

This document is updated annually and will include any advances in this field. The City has or will implement any changes that need to be implemented due to various factors. The information used in order to come up with the best strategies is acquired from many resources such as master planning, funding, location etc...

INVENTORY

The facilities evaluated in this report are listed as follows:

Aquatic Center (8000 Ewing Boulevard)
Evelyn M. Kalb Gathering House
Firebase I (Main Street)
Firebase II (Industrial Road)
Firebase III (Weaver Road)
Florence Government Center
Fowler Creek Pump Station Bldg.
Greenview Pump Station Building
Lincoln Woods Park Restroom
Nature Park Restroom
Niblack Senior Center
Office Building A (8020 Veterans Memorial Dr.)
Pheasant Pump Station Building
Rosetta Clow Diversion Building
Rosetta Grounds Building
Rosetta Main Building
Rosetta Pump Station Building
Tanners Building 4
Tanners Maintenance Facility
Woodspoint Maintenance Bldg.
World of Golf

CITY OF FLORENCE PUBLIC SERVICES

FACILITY INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEARS 2016-2021

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Industrial Rd. Fire House	HVAC Replacement	
Nature Park	Interior Furnishings	
Weaver Rd. Fire House	HVAC / Duct Replacement Phase I	
Government Center	Carpet Replacement	
Government Center	Room C Chair Replacement	
Government Center	Exterior Ground Lights Phase I	
Government Center / Office Building A	Exterior Façade Cleaning	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Weaver Rd. Fire House	HVAC / Duct Replacement Phase II	
Industrial Rd. Fire Base	Kitchen Remodel	
Industrial Rd. Fire House	Roof Replacement	
Rosetta Grounds Building	Roof Replacement / Re-Paint	
Woodspoint Maintenance Building	Roof Replacement	
Government Center	Exterior Ground Lights Phase II	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Tanner's Facility	Automatic Gate	
Industrial Rd. and Weaver Rd. Fire Base	Ceiling Heaters Replacement	
Weaver Fire Base	Bay Light Replacement	
Tanner's Facility Garage Doors	Replacement	
Government Center / Nature Park	Exterior Ground Lights Phase III	
PSCC Carpet	Replacement	
Nature Park	Gazebo Improvements	
Industrial Rd. Fire Base	Generator Replacement	

Total

2019-2020

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Weaver Rd. Fire Base	Garage Door Replacement	$15,000.00
Government Center Roof Top Units	Replacement	$35,000.00
Government Center	Interior Painting	$45,000.00
Façade Cleaning	Improvements	$25,000.00
Industrial Rd. / Weaver Rd.	Interior Painting	$30,000.00
Government Center	Paver Improvements	$25,000.00
Total		**$125,000.00**

2020-2021

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Government Center	Elevator Replacement	
Government Center	PD Carpet Replacement	
Government Center	Community Room Table Replacement	
Government Center	Community Room Carpet Replacement	
Miscellaneous Improvements/Repairs	Improvements	

Total

CITY OF FLORENCE PUBLIC SERVICES

AQUATIC CENTER MANAGEMENT AND APPROACH

FISCAL YEARS - 2016-2021

INTRODUCTION

The Florence Family Aquatic Center is located at 8200 Ewing Boulevard, on the campus of the Florence Government Center.

This facility contains a lazy river, competition pool, zero depth area, two spray grounds, a spiral and a speed slides, sunbathing areas, shelters, bathhouse and concessions area. A paved path surrounds the outside of the facility and is located at the south end of the Florence Government Center complex. There is additional parking at the north end of the Government Center.

The following pages outline forecasted capital needs over the next three years.

CITY OF FLORENCE PUBLIC SERVICES

AQUATIC CENTER INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEARS 2016-2019

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Aquatic Center	Replacement of Chairs	
Aquatic Center	Play Feature Rehabilitation	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Aquatic Center	Pool Bottom Improvements	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Aquatic Center	Pool Boiler Replacement	
Aquatic Center	Concessions HVAC Replacement	
Aquatic Center	Interior Painting	
Aquatic Center	Splash Pad Improvements	

Total

CITY OF FLORENCE PUBLIC SERVICES

FLORENCE FREEDOM BALLPARK MANAGEMENT AND APPROACH

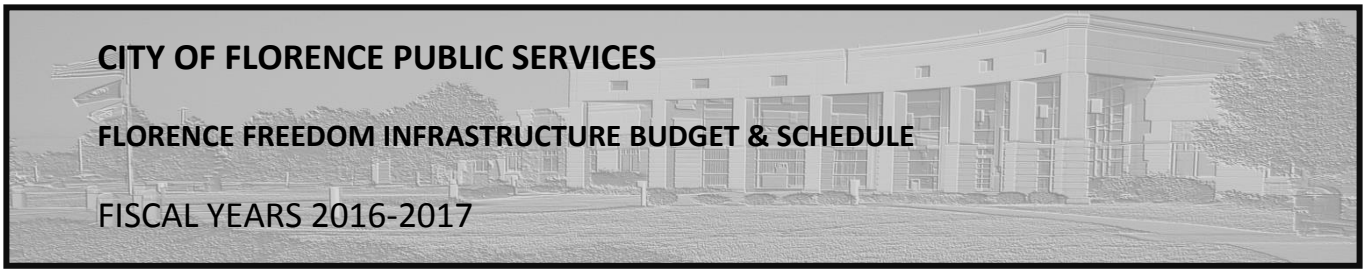
FISCAL YEARS - 2016-2017

INTRODUCTION

The Florence Freedom Ballpark is located at 7950 Freedom Way, located just off of Interstate I-75 and it is sitting on approximately 25 acres. The Florence Freedom is a professional minor league baseball team which is a member of the West Divisions Independent Frontier League. The Florence Freedom stadium was built and completed in 2005 which and was the team's first season.

When the Florence Freedom Stadium is not hosting a minor league baseball games the managers of the ballpark host other events such as youth league tournaments, homerun derby events, concerts, Holiday Parties, Birthday Parties and is available for hosting any large events.

The following pages outline forecasted capital needs over the year.



CITY OF FLORENCE PUBLIC SERVICES

FLORENCE FREEDOM INFRASTRUCTURE BUDGET & SCHEDULE

FISCAL YEARS 2016-2017

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Florence Freedom Ballpark	Parking Lot Repairs	
Florence Freedom Ballpark	Spot Painting	
Florence Freedom Ballpark	Miscellaneous Painting	

Total

CITY OF FLORENCE PUBLIC SERVICES

SITE ASSET MANAGEMENT AND APPROACH

FISCAL YEARS - 2016-2021

INTRODUCTION

The City of Florence Public Services Department is responsible for all maintenance, repairs, rehabilitation and inspection of over **600** site assets owned by the City. Site assets are located in Parks, City Owned Facilities and along City Right of Way. The assets included in this report consist of playground equipment, trash cans, benches, picnic tables, shelters, basketball/tennis/volleyball courts, bike racks, etc…

This document presents a brief outline of the department's site asset management strategies. The strategies contained in this document will illustrate how the City strives to maintain the site assets in a good condition.

This document is updated annually and will include any advances in this field that the City has or will implement as well as any changes that need to be implemented due to various factors. The information used order to come up with the best strategies, in regards to site assets, is acquired from many resources.

One resource used is the evaluation of our site asset through our annual inspection program. The inspection process is used to identify a multitude of site asset deficiencies that are then given a rating as to their severity. Once the inspection process is completed, these ratings are input into our LUCITY System. This system processes the new ratings and allows City staff to evaluate and prioritize each asset.

After all evaluations have been completed, City staff will then figure the cost of repairing / replacing the site asset as identified. The cost figures are based off a preliminary budget estimate. These estimates will be updated based on a more thorough examination of the needed repairs prior to the start of any work.

INVENTORY

The site assets evaluated in this report consist of the following inventory information: This does not include all assets but does address the majority.

Playground Equipment – 40
Aquatic Center Equipment – 15
Trash Receptacles – 131
Benches – 120
Picnic Tables – 34
Basketball Courts – 4
Tennis Courts – 3
Volleyball Courts – 3
Shelters – 7
Community Signs – 16
Corporation Signs – 10
Flag Poles – 7
Bike Rack – 6
Grills – 6
Water Fountains – 10

ROUTINE MAINTENANCE

The following activities conducted by the Public Services Department are categorized as **routine maintenance** activities:

Annual Playground Equipment Audit Inspections

In the continuing effort by the City of Florence to provide quality, well-maintained, clean and safe parks and facilities for public use, the EIS Department has established an annual inspection program for each of the parks. All park inspections are performed by Certified Playground Safety Inspectors (CPSI) to ensure that the most recent standards have been followed and the park is safe for use.

Inspections will begin each year in or before the month of March with a target completion date of April 1st. This provides the City of Florence adequate time before the parks get busy to take corrective action if necessary.

The following "Priority Scale" is used to determine the severity of the deficiency.

Priority 1 – Permanent Disability, loss of life or body part in a high risk area
Priority 2 – Serious or minor injury or illness resulting in temporary disability
Priority 3 – Non Compliant

Note: "Low Priority" is called out on a few occasions throughout this report. This reflects items that need painting and rust removal.

Once the certified playground inspector has completed all inspections a deficiency report is then developed. This report includes the priority rating of the deficiency found with a recommended corrective measure. The location of each deficiency is also labeled on a map specifying which piece of equipment is in non-compliance. Then finally a work order is written and assigned to a Public Services maintenance crew where deficiencies are corrected within a specified deadline.

Annual Site Asset Inspections
The department performs Annual inspections on all City owned site assets and this information is entered into the Department's infrastructure management software system (GBA). This information then provides the department with the ability to determine the repair strategy and scheduling priority of any site assets in need of rehabilitation.

Monthly Site Asset Inspections
The Department performs monthly inspections at all playgrounds where each asset is evaluated for safety measures. During this inspection each asset will be labeled 1) Okay 2) Needs Maintenance or 3) Request for Repair.

REHABILITATION

The following are **rehabilitation** measures conducted by the Public Services Department or contracted out:

Wood Structure Cleaning / Sealing
The cleaning / sealing of all wood structures are contracted out by the Public Services Department every three years. This work includes the sealing of all park shelters, pedestrian bridges, Nature Park gazebo / trellis, decks, fence, etc…

Painting
All site assets are inspected / evaluated on an annual basis. A report is generated through GBA which identifies the specific locations for painting during that fiscal year. The majority of painting is performed by City staff with the exception of the larger specialty items. An Example of a specialty items would be the slides at the Aquatic Center and the larger playground equipment in the Parks. These site assets would be contracted out.

REPLACEMENT

The following activity conducted by the Public Services Department is categorized as a **replacement** activity:

Replacement
Replacement techniques are utilized when a site asset has reached a point that rehabilitation strategies do not adequately address its problems. Each replacement project is unique and a variety of engineering techniques are used to improve the condition. The City performs inspections on all site assets and then rates the condition of this infrastructure based on specific criteria. Upon the completion of this inspection the site asset will be evaluated to determine if replacement is necessary.

CITY OF FLORENCE PUBLIC SERVICES

SITE ASSET REPLACEMENT/REPAIR BUDGET

FISCAL YEARS 2016-2021

2016-2017

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Shelter Staining	Staining	
Annual Park Maintenance (In House)	Miscellaneous Repairs	
Trash Can, Bench, Picnic Table and Water Fountain (In House)	Replacement	

Total

2017-2018

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Playground Equipment Painting	Painting	
Annual Park Maintenance (In House)	Miscellaneous Repairs	
Trash Can, Bench, Picnic Table and Water Fountain (In House)	Replacement	

Total

2018-2019

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Playground Equipment Painting	Painting	
Annual Park Maintenance (In House)	Miscellaneous Repairs	
Trash Can, Bench, Picnic Table and Water Fountain (In House)	Replacement	

Total

2019-2020

PROJECT	DESCRIPTION	BUDGETED AMOUNT
World of Golf Bridge Restoration	Staining, Structure Improvements	
Annual Park Maintenance (In House)	Miscellaneous Repairs	
Trash Can, Bench, Picnic Table and Water Fountain (In House)	Replacement	

Total

2020-2021

PROJECT	DESCRIPTION	BUDGETED AMOUNT
Shelter Staining	Painting	
Annual Park Maintenance (In House)	Painting, Miscellaneous Repairs	
Trash Can, Bench, Picnic Table and Water Fountain (In House)	Replacement	

Total

CITY OF FLORENCE PUBLIC SERVICES

GROUNDS/URBAN FORESTRY MANAGEMENT AND APPROACH

FISCAL YEARS - 2016-2017

INTRODUCTION

The Public Services Department maintains and manages **158 acres** of finish mowed grass and **211,000 square feet** of landscape beds. Maintenance responsibilities include: grass trimming, landscape maintenance, litter collection, hazardous tree removal, pesticide application, lake/pond management, leaf collection, mulching, tree pruning, etc...

This document presents a brief outline of the Department's Grounds management strategies. It will illustrate how the City strives to maintain and develop our Grounds.

This document is updated annually and will include any advances in this field. The City has or will implement any changes that need to be implemented due to various factors. The information used in order to come up with the best strategies is acquired from many resources such as master planning, funding, location etc...

INVENTORY

The categories evaluated in this report are listed as follows:

Mowing
Fertilization
Mulching
ROW Brush Removal
Landscape Maintenance
Irrigation
Plants
Bio-Swales
Irrigation
Tree Watering
Tree Removal
Tree Pruning

Many of these maintenance responsibilities are performed in-house and through the use of contractors. The City of Florence currently bids out mowing, fertilization and tree watering. Mall Road and Turfway Road islands are also specifically separated and the maintenance of these are performed by contractors through the bidding process.

URBAN FORESTRY

In 2014 the City of Florence continued its commitment to urban forestry through both in-house and contracted tree planting efforts. Over the past five years the City of Florence completed several very large streetscape and facility projects that increased our urban forestry and maintenance responsibilities dramatically. Again, in 2014, maintenance funding remained a top propriety of City leaders.

Some of the City's 2014 tree planting efforts this year included: KY 18 Streetscape plantings, Nature Park Gazebo enhancement plantings, Tanners Lane Phase II forestry plantings, Stringtown Park, NiBlack Park and storm water –

water quality tree plantings. Some smaller planting projects this year were: Mallard/Quail street plantings, Center Street Cemetery plantings and Walmart Detention Basin Plantings. The City's Urban Forest Commission also continued with both its annual "spring tree replacements" along with its "fall tree replacements". These annual tree replacement projects are a continual effort to keep past projects as vital as the day completed.

The City of Florence continued in 2014 its commitment to Storm Water – water quality mitigating through urban forestry tree planting efforts. The City is not only reducing the quantity of the storm water runoff through tree plantings but we're also improving the overall water quality of the storm water runoff. This year's planting efforts were again completed in City owned storm water detention basins, parks and plantings associated with capital storm water projects. The visual impact of this program is immediate with storm water quality/quantity improvements to be realized in the future as these planting projects mature.

In 2014 the City worked, again, with volunteers from two separate volunteer programs, GO CINCINNATI and the HEART OF THE CITY. Both are local church volunteer groups that furnished well over 100 volunteers again this year - combined. Groups worked on cutting underbrush along Local Street R.O.W.'s and at two city owned parks. The volunteer groups greatly aided the City of Florence in combating the ongoing maintenance issues with brush control.

The Florence Public Services Department completed its twenty third annual leaf collection program in the fall of 2014. The service is provided during a ten-week period beginning in October and ending in December. All leaves collected are given to private property owners for use as compost. The leaf collection program cost totaled approximately $ 48,662.00 in labor and equipment.

CITY OF FLORENCE PUBLIC SERVICES

GROUNDS/URBAN FORESTRY BUDGET & SCHEDULE

FISCAL YEAR - 2016/2017

2016-2017

DESCRIPTION	BUDGETED AMOUNT
Mowing	
Fertilization	
Mulching	
Orleans Retention Basin Algae Treatment	
Landscape Maintenance	
Irrigation	
Plants	
Weed Control	
Misc. Ground Maintenance Supplies	

Total

DESCRIPTION	BUDGETED AMOUNT
Point Property / Clock Tower Tree Planting	
Tree Replacements	
Contracted Tree Watering	
Tree Removal / Pruning	
Tree Mulching & Staking	
Tree Fertilization	
Emerald Ash Borer Tree Treatment	
Arbor Day Celebration – Lincoln Woods Park	
Professional Design Services	

Total

Tree Watering

All trees planted within 3 years are to be watered as necessary starting in May and ending in October. The tree watering list is generated by Infrastructure Support Services (ISS) and encompasses all tree plantings through the spring of this year.

Tree Mulching

All trees with tree mulch-rings are to be “mulched” annually. In addition; one third of all mulch-rings are to be “re-edged” annually.

Tree Removal

Dead, dying or bore infected ash trees to be removed this year will be marked by Infrastructure Support Service (ISS) in the fall. Removal locations will be in South Fork Park.

Tree Trimming:

All trees in the right of way shall be trimmed to provide line of sight for vehicular traffic and signage on an annual basis.

CITY OF FLORENCE PUBLIC SERVICES

FLEET MAINTENANCE MANAGEMENT AND APPROACH

FISCAL YEARS 2016 - 2021

INTRODUCTION

The Fleet Maintenance Division of Public Works is assigned the overall responsibility for managing the city's fleet of vehicles and construction/maintenance equipment. The Public Works Department works in conjunction with the Police and Fire Departments to: develop vehicle and equipment specifications; develop vehicle and equipment replacement schedules; acquire vehicles and equipment; and reassign and dispose of vehicles and equipment. The vehicle and equipment maintenance functions are assigned solely to the Public Works Department. The public works maintenance garage is located at 7850 Tanners Drive; two full-time mechanics are employed to maintain **180** vehicles and equipment.

The following pages will outline the proposed vehicle/major equipment replacement plan for the next five years. This document reflects the vision of the Fleet Division to create a multi-year vehicle and equipment replacement plan that will serve as a guide in providing direction to meet needs. This is a living document that will be modified and updated annually to reflect changes in the city's organizational climate, the changing needs of our internal customers, and changes in the automotive and equipment industry.

The Department replacement program includes policies and procedures on acquisition, maintenance, replacement and disposal of vehicles as described in more detail below:

Acquisition

The goal of our acquisition practice is to obtain the lowest possible price and the highest possible quality. Currently the City purchases through State Contracts to achieve this goal. Some specialty equipment that is not part of the state contract is bid internally with the assistance of the ISS Division.

Maintenance

The goal of Public Works vehicle and equipment maintenance practices is to keep vehicles and equipment in sound operating condition. Preventive maintenance routines and intervals followed by our mechanics and are based on local driving conditions and manufacturer's recommendations, for each type of vehicle or equipment and each type of maintenance service. Maintenance costs represent a significant portion of the total cost to own and operate a vehicle or piece of heavy equipment and tend to increase as a vehicle or equipment ages. Escalating maintenance costs are a key factor in determining when to replace a fleet vehicle. In addition to the added cost of maintenance as a vehicle ages, there is an additional cost to the city when a vehicle is in the garage receiving maintenance and not available for use. Preventive maintenance is the key to avoiding the repair or replacement of costly major vehicle components such as engines, transmissions and drive trains.

Replacement

As with other aspects of fleet management, replacing a vehicle too soon or too late wastes money. The goal is to analyze the costs associated with a vehicle and identifying the point when, on average, a vehicle is reasonably depreciated but not yet incurring significant maintenance costs. By replacing vehicles at this point, we avoid escalating maintenance costs and optimize vehicle resale value. The three criteria that we considered when establishing the vehicle replacement schedule were vehicle mileage, age and use. Because each vehicle/ piece of major equipment we use is unique, the projected life span varies, below is the typical life span cycle that is followed within the Public Works Department.

Type of Vehicle	Average Life Span
Mini Vacuum Truck	10 years
Pressure Machine	10 years
Service Truck	10 years
Backhoe	10 years
Crackseal Machine	10 years
Skid Steer	10 years
Pickup Trucks	10 years
Vactor Truck	13 years
1 & 2 Ton Trucks	13 years
Tandem Dump Truck	13 years
Sweeper	13 years
Roller	15 years
CCTV Truck	15 years
TV Truck	20 years
Mudjack Machine	20 years
Tractor	20 years
Bucket Truck	20 years

Reassignment/Disposal of Vehicles and Equipment

The vehicle and equipment fleet is sized to meet the current needs of the Department. Fleet vehicles and heavy equipment will not be reassigned unless it is used to replace unit currently assigned to other departments. In those instances the older units will be disposed. Annually, before Operating and Capital Budgets are prepared, the Police and Fire Chiefs will meet with the Public Works Director to review the vehicle and equipment replacement schedule, and plan for the reassignment or disposal of vehicles and equipment that have reached their age, and mileage thresholds and will be replaced in the next budget cycle. Police vehicles may be reassigned to the Code Enforcement Office for field work. Four Wheel Drive vehicles may be reassigned to the Public Works Department for maintenance related work. The majority of vehicles selected for replacement will be sent to the public auction.

CITY OF FLORENCE PUBLIC SERVICES

FLEET BUDGET & SCHEDULE

FISCAL YEARS 2016 - 2021

2016-2017

PUBLIC SERVICES VEHICLE / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
Two Ton Dump Truck	
Major Equipment	
Mower Equipment	
Utility Truck	
SUV for CSS	

Total

WATER & SEWER / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
One Ton Truck	
Utility Truck	
Backhoe	
Major Equipment	

Total

2017-2018

PUBLIC SERVICES VEHICLE / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
One Ton Dump Truck With Plow and Spreader	
SUV For CSS	
SUV For CSS	
Mower Equipment	
Wheel Balancer	
Major Equipment	

Total

WATER & SEWER / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
Utility Body Truck	
Arrow Board	
Confined Space System	
SUV For ISS	
TV Truck	
Major Equipment	

Total

2018-2019

PUBLIC SERVICES VEHICLE / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
One Ton Dump Truck With Plow and Spreader	
Rock Drill	
Concrete Breaker	
Skid Steer	
Mower	
Tire Machine	
Fleet Parts Truck	
Major Equipment	

Total

WATER & SEWER / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
Utility Body	
Shoring Box	
SUV For ISS	
Flat Bed Truck, Valve Turner and Vac Machine	
Major Equipment	

Total

2019-2020

PUBLIC SERVICES VEHICLE / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
One Ton Dump w/ Plow and Spreader	
Street Sweeper	
Mower	
Supervisor SUV/Pick Up Truck	
Major Equipment	

Total

WATER & SEWER / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
SAE Pressure Machine	
SUV For ISS	
Supervisor SUV/Pick Up Truck	
Major Equipment	

Total

2020-20221

PUBLIC SERVICES VEHICLE / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
Two Ton Dump Truck	
Tire Machine	
Backhoe	
Mower Equipment	
Crack Router	
Major Equipment	

Total

WATER & SEWER / EQUIPMENT REPLACEMENT	BUDGETED AMOUNT
One Ton Dump w/ Plow and Spreader	
Supervisor SUV/Pick Up Truck	
F350 Pickup	
Major Equipment	

Total